

# United States Department of Agriculture

## PRODUCTION AND MARKETING ADMINISTRATION

### SERVICE AND REGULATORY ANNOUNCEMENTS NO. 171

## OFFICIAL UNITED STATES STANDARDS FOR GRADES OF PORK CARCASSES (BARROW AND GILT)

(Title 7, Ch. I, Pt. 53, Sections 53.140–53.143 of the Code of Federal Regulations)

The following is a reprint of the official United States standards for the grades of barrow and gilt carcasses promulgated by the Secretary of Agriculture under the Agricultural Marketing Act of 1946 (60 Stat. 1087; 7 U. S. C. 1621 et seq.) and the item for Marketing Services recurring in the annual appropriation act for the United States Department of Agriculture and currently found in the Department of Agriculture Appropriation Act, 1953 (Pub. Law 451, 82d Cong.).

### DEVELOPMENT OF THE STANDARDS

Tentative standards for grades of pork carcasses and fresh pork cuts were issued by the United States Department of Agriculture in 1931. These tentative standards were slightly revised in 1933 and published in Circular No. 288.

New standards for grades of barrow and gilt carcasses were proposed by the United States Department of Agriculture in 1949. These standards represented the first application of objective measurements as guides to grades for pork carcasses. Slight revisions were made in the proposed standards prior to promulgation, by the Secretary of Agriculture, as the official United States standards for grades of barrow and gilt carcasses, effective September 12, 1952.

### BASES FOR PORK CARCASS STANDARDS

The standards for pork carcasses developed by the United States Department of Agriculture provide for segregation according to (a) class, as determined by the apparent sex condition of the animal at the time of slaughter, and (b) grade, which reflects quality of pork and the relative proportion of lean cuts to fat cuts in the carcass.

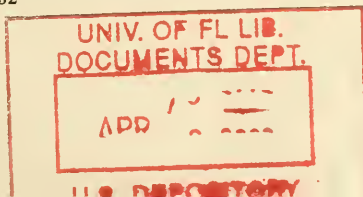
### PORK CARCASS CLASSES

The five classes of pork carcasses, comparable to the same five classes of slaughter hogs, are barrow, gilt, sow, stag, and boar carcasses.

### APPLICATION OF STANDARDS FOR GRADES OF BARROW AND GILT CARCASSES

Differences in barrow and gilt carcasses due to sex condition are minor, and the grade standards are equally applicable for grading both classes.

Barrow and gilt carcasses are graded primarily on the basis of (1) differences in yields of lean cuts and of fat cuts, and (2) differences in quality of cuts. These factors vary rather uniformly and consistently from one grade to another. The Choice grade includes carcasses which are firm and have indications of ade-



quate marbling, or fat interspersed within the lean, to produce the acceptable palatability of Choice grade pork. Quality of the trimmed lean cuts is similar in all Choice grade carcasses, but divisions of the grade reflect the decreased ratio of lean cuts to fat cuts in carcasses with increased degrees of finish in excess of the minimum required for the Choice grade. Medium grade carcasses are underfinished and produce Medium grade pork, in which the lean and fat are slightly soft and the lean has little or no marbling. The Cull grade includes those carcasses which are decidedly underfinished, resulting in typical Cull grade pork with soft, watery lean and no visible marbling. Only carcasses with firmness appropriate to the degree of finish are included under these standards. However, carcasses which are typically soft or oily as a result of feeds producing soft or oily fat may be graded in accordance with these standards provided they are specially identified as soft or oily along with the grade.

Measurements of average back fat thickness in relation to carcass weight or length are closely related to yield of cuts and the quality of the cuts. The following table of measurements provides an objective guide in determining the barrow and gilt carcass grades.

*Weight and Measurement Guides to Grades for Barrow and Gilt Carcasses*

Carcass weight or carcass length <sup>1</sup>	Average back fat thickness, <sup>2</sup> by grade				
	Choice No. 1	Choice No. 2	Choice No. 3	Medium	Cull
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
Under 120 pounds or under 27 inches.	1.4 to 1.7....	1.7 to 2.0....	2.0 or more..	1.0 to 1.4....	Less than 1.0.
120 to 164 pounds or 27 to 29.9 inches.	1.5 to 1.8....	1.8 to 2.1....	2.1 or more..	1.1 to 1.5....	Less than 1.1.
165 to 209 pounds or 30 to 32.9 inches.	1.6 to 1.9....	1.9 to 2.2....	2.2 or more..	1.2 to 1.6....	Less than 1.2.
210 or more pounds or 33 or more inches.	1.7 to 2.0....	2.0 to 2.3....	2.3 or more..	1.3 to 1.7....	Less than 1.3.

<sup>1</sup> Either carcass weight or length may be used with back fat thickness as a reliable guide to grade. The table shows the normal length range for given weights. In extreme cases where the use of length with back fat thickness indicates a different grade than by using weight, final grade is determined subjectively as provided in the standards. Carcass weight is based on a chilled, picker style carcass. Carcass length is measured from the forward point of the aitch bone to the forward edge of the first rib.

<sup>2</sup> A verage of measurements made opposite the first and last ribs and last lumbar vertebra.

The standards for grades of barrow and gilt carcasses include carcass measurements and descriptions of the characteristics of carcasses which indicate the lean and fat yields and imply the quality of meat typical of the minimum degree of finish of each grade. Visual estimates of fat thickness normally alleviate the necessity for measuring carcasses. In addition to the measurement guides to grade differences, the standards also provide the basis for consideration of other characteristics. While carcass measurements furnish a reliable general guide to pork quality, for borderline carcasses between Choice and Medium and between Medium and Cull grades, the final grade of the carcass may vary from that indicated by carcass measurements because of other visual evidences of quality. Similarly, within the Choice grade, the determination of the division of the grade, that is, Choice No. 1, Choice No. 2, or Choice No. 3, may include, in addition to consideration of carcass measurements, a consideration of such characteristics as length in relation to weight, conformation of hams, loins, bellies, and shoulders, and uniformity of width, depth, and fat covering. However, application of these additional factors is limited to borderline carcasses, and in no case may the final grade division be more than one-half of the width of a grade division different than that indicated by carcass measurements. The standards describe carcasses typical of each grade or major grade division, and no attempt is made to describe the nearly limitless number of combinations of characteristics that may qualify a carcass for a particular grade or division thereof.

## SPECIFICATIONS FOR OFFICIAL UNITED STATES STANDARDS FOR GRADES OF BARROW AND GILT CARCASSES

### CHOICE NO. 1

Carcasses in this grade division have near the minimum degree of finish required for the production of Choice grade cuts. Meatiness based on yield of lean cuts in relation to carcass weight is slightly high; yield of fat cuts is correspondingly low. The ratio of total lean and fat to bone is slightly high. Carcasses possessing the minimum finish for Choice No. 1 tend to be moderately wide and long in relation to weight. The back and loins are moderately full and thick with a uniformly full, well-rounded appearance. Hams are usually moderately thick, plump, and smooth, and are slightly full in the lower part toward the hocks. Bellies are moderately long, smooth, slightly thick, and moderately uniform in thickness; the belly pocket is slightly thick. Shoulders are full-fleshed but usually blend smoothly into the sides. The carcass is moderately well-balanced and smooth. There are moderate quantities of interior fats in the region of the pelvis, a slightly thin but fairly extensive layer of fat lining the inside surface of the ribs, and moderate feathering. The flesh is firm. Both exterior and interior fats are firm, white, and of excellent quality.

Carcasses with other characteristics typical of the thinner one-half of Choice No. 1, but with the firmness, belly thickness, and quantity and distribution of interior fats typical of that in the Medium grade shall be graded Medium.

### CHOICE NO. 2

Carcasses in this grade division have a higher degree of finish than the minimum required for the production of Choice grade cuts. Meatiness based on yield of lean cuts in relation to carcass weight is slightly low; yield of fat cuts is correspondingly high. The ratio of total lean and fat to bone is moderately high. Carcasses with the minimum finish for Choice No. 2 tend to be wide and slightly short in relation to weight. The back and loins are full and thick and appear fuller near the edges than at the center. Hams are usually thick, plump, and smooth, and are moderately full in the lower part toward the hocks. Bellies are thick, smooth, slightly short, and rather uniform in thickness; the belly pocket is moderately thick. Shoulders are moderately thick and full but blend smoothly into the sides. The carcass is well-balanced and smooth with uniform development of the various parts. There are slightly large quantities of interior fats in the region of the pelvis, a slightly thick and moderately extensive layer of fat lining the inside surface of the ribs, and slightly abundant feathering. The flesh is firm. Both exterior and interior fats are firm, white, and of excellent quality.

### CHOICE NO. 3

Carcasses in this grade division have a decidedly higher degree of finish than the minimum required for the production of Choice grade cuts. Meatiness based on yield of lean cuts in relation to carcass weight is low; yield of fat cuts is correspondingly high. The ratio of total lean and fat to bone is high. Carcasses with the minimum finish for Choice No. 3 tend to be very wide and short in relation to weight. The back and loins are very full and thick and appear especially full near the edges. Hams are usually thick, very plump, and smooth, and are full in the lower part toward the hocks. Bellies are very thick, smooth, short, and uniform in thickness; the belly pocket is thick. Shoulders are thickly fleshed but blend smoothly into the sides. The carcass is well-balanced and smooth with uniform development of the various parts. There are large quantities of interior fats in the region of the pelvis, a moderately thick and nearly complete layer of fat lining the inside surface of the ribs, and moderately abundant feathering. The flesh is firm. Both exterior and interior fats are firm, white, and of excellent quality.

### MEDIUM

Carcasses in this grade have a slightly lower degree of finish than the minimum required for the production of Choice grade cuts. Yield of lean cuts in relation to carcass weight is moderately high; yield of fat cuts is correspondingly low. The ratio of total lean and fat to bone is slightly low. Carcasses with the mini-





3 1262 08338 151 6

imum finish required for the Medium grade tend to be narrow and long in relation to weight. The back and loins are slightly thin, deficient in fullness, and appear to slope away from the center toward the sides. Hams are usually slightly thin, lacking in plumpness, and taper slightly toward the hocks. Bellies are long, slightly thin and wrinkled, and moderately uneven in thickness; the belly pocket is slightly thin. Shoulders are slightly thin and flat, but often show prominence at the junction with the sides. The carcass tends to be uneven and rough with slightly irregular development of the various parts. There are slightly small quantities of interior fats in the region of the pelvis, a scanty and incomplete layer of fat lining the inside surface of the ribs, and only a small quantity of feathering. Both exterior and interior fats are moderately soft, white to creamy white, and of slightly low quality. The flesh is moderately soft and has little evidence of marbling.

Carcasses with other characteristics typical of the fatter one-half of the Medium grade but with the firmness, belly thickness, and quantity and distribution of interior fats comparable to that of Choice No. 1 shall be graded Choice No. 1. Carcasses with other characteristics typical of the thinner one-half of the Medium grade shall be graded Cull when quality indications are comparable to those of the Cull grade.

#### CULL

Carcasses in this grade have a considerably lower degree of finish than the minimum required for the production of Choice grade cuts, and most cuts are suitable only for processing. Yield of lean cuts in relation to carcass weight is high; yield of fat cuts is correspondingly low. The ratio of total lean and fat to bone is low. Carcasses with typical Cull grade finish are narrow and long in relation to weight. The back and loins are thin and decidedly lacking in fullness with a definite slope away from the center toward the sides. Hams are thin, flat, and wrinkled, and show a definite taper toward the hocks. Bellies are very long, thin and wrinkled, and very uneven in thickness; the belly pocket is very thin. Shoulders are thin and flat but prominent at the junction with the sides. The carcass is uneven and rough with irregular development of the various parts. There are small quantities of interior fats in the region of the pelvis and little or no fat in the area of the inside surface of the ribs. Both exterior and interior fats are soft, creamy white to white, and of very low quality. The flesh is soft and watery and has no evidence of marbling.

Carcasses with other characteristics typical of nearly maximum degree of finish for the Cull grade, but with the firmness, belly thickness, and quantity and distribution of interior fats comparable to that of the Medium grade shall be graded Medium.